



BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

Powers Fasteners, Inc.
2 Power Square.
New Rochelle, N.Y. 10801

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Concrete Anchors

APPROVAL DOCUMENT: Drawing No. MDC-01, Sheets 1 through 4 of 4, titled "Power Stud Anchor, Lok/Bolt Anchor, Zamac Nailin Anchor & Steel Drop-In Anchor" dated 07/14/03 with last revision on 09/24/03, prepared by Power Fasteners, Inc., signed and sealed by L. W. Mattis PE, bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance (NOA) number and approval date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: None

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1, evidence page as well as approval document mentioned above.

The submitted documentation was reviewed by **Candido F. Font, P.E.**



[Signature]
11/13/03

NOA No 03-0311.08
Expiration Date: November 13, 2008
Approval Date: November 13, 2003

Power Fasteners, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE PAGE

A DRAWINGS:

1. Drawings prepared by Powers Fasteners Inc, titled "Power-Stud Anchor, Lok/Bolt Anchor, Zamac Nailin Anchor & Steel Drop-In Anchor"; Drawing No. MDC-01, dated 07/14/03 with last revision on 09/24/03, sheet 1 through 4 of 4, signed and sealed by L. W. Mattis PE.

B TEST:

	Laboratory No.	Test Report.	Date.	Signature
1.	CTI 7R44	ASTM E488	11/07/97	L.W. Mattis PE.
2.	CEL 9R68	ASTM E488	11/30/99	L.W. Mattis PE.
3.	CTI 5R07D	ASTM E488	06/28/95	L.W. Mattis PE.
4.	CEL 9R68S	ASTM E488	09/30/99	L.W. Mattis PE.
5.	CTI 5R07S	ASTM E488	06/28/95	L.W. Mattis PE.
6.	ARL 30388	PA 114 App E.	10/10/02	C.A. Hamon PE.

C CALCULATIONS:

N/A

D QUALITY ASSURANCE.

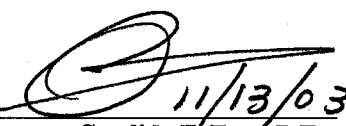
1. Miami-Dade Quality Control Division.

E MATERIAL CERTIFICATIONS:

N/A

F STATEMENTS:

1. No change letter issued by Power Fasteners Inc on 07/20/03, signed by M. Gaffigan and notarized by L. Bailey.
2. No interest letter issued by Powers Fasteners on 07/20/03, signed by M. Gaffigan and notarized by L. Bailey.
3. Code compliance letter issued by CEL Consulting on 07/14/03 and signed by L. Mattis PE.


Candido F. Font, P.E.
Senior Product Control Examiner
NOA No 03-0311.08
Expiration Date: November 13, 2008
Approval Date: November 13, 2003

DESCRIPTION AND MATERIALS:

The Power-Stud (formerly called the Rawl-Stud) is a one piece, wedge-style anchor available in carbon steel. Threaded, Rod hanger, Rod Coupling, and Tie Wire versions are designed for use in concrete. It is designed with a chamfer on the threaded end and a tapered expansion section on the working end of the anchor on which a set of interlocking wedges are mounted.

During installation, the chamfer prevents damage to the threads of the anchor. The wedges are held on to the tapered expansion section of the anchor by interlocking tabs which grip the body firmly to prevent spinning of the anchor during tightening. As the anchor is tightened, the body is pulled upward causing the tapered expansion section to compress the wedge circumferentially against the wall of the anchor hole.

Galvanized anchor bodies are manufactured from AISI 1144 steel for 1/4" Dia. and AISI 12L14 steel for 3/8" through 1-1/4" Dia. Wedge and washer are C1010 cold rolled steel and nuts meet ASTM A307, Grade A. The anchors are zinc plated per ASTM B633 or ASTM B695.

POWER-STUD ANCHOR

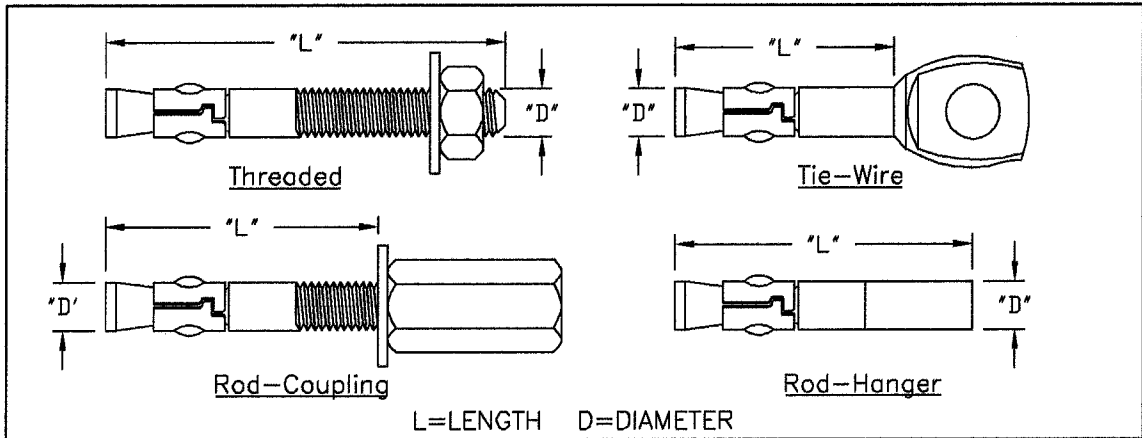


TABLE No. 1

POWER-STUD ANCHOR - Allowable Design Loads.

Anchor Dia. (inches)	Embedment Depth (inches)	Installation Torque (ft-lbs)	2000 psi Concrete		4000 psi Concrete		6000 psi Concrete	
			Tension (pounds)	Shear (pounds)	Tension (pounds)	Shear (pounds)	Tension (pounds)	Shear (pounds)
1/4	1-1/8	8	310	395	360	405	435	405
	2	8	475	395	520	405	525	405
3/8	1-5/8	28	480	890	760	940	760	940
	3	28	1,025	890	1,505	940	1,505	940
1/2	2-1/4	60	860	1,635	1,390	1,700	1,635	1,700
	4	60	1,425	1,635	2,040	1,700	2,300	1,700
5/8	2-3/4	90	1,560	2,320	2,075	2,975	2,465	2,975
	5	90	2,660	2,320	3,125	2,975	4,100	2,975
3/4	3-3/8	175	1,855	3,095	2,027	3,765	3,135	3,765
	6	175	1,860	3,095	3,115	3,765	5,045	3,765
7/8	3-7/8	250	1,181	4,490	3,075	6,040	4,325	6,040
	7	250	1,805	4,490	5,110	6,040	7,795	6,040
1	4-1/2	300	2,185	6,605	2,764	7,775	5,306	7,775
	8	300	5,590	6,605	6,760	7,775	11,055	7,775
1-1/4	5-1/2	450	3,820	9,959	6,745	9,959	9,230	9,959
	10	450	6,510	9,959	13,070	9,959	15,170	9,959

1. Allowable Loads are based on ultimate loads with a 4:1 safety factor.
2. Spacing and edge distance shall be in accordance with Table No. 2.
3. The allowable loads may be increased 33-1/3% for short term loading due to seismic or wind forces.
4. Allowable loads are for carbon steel anchors.

TABLE No. 2

POWER-STUD ANCHOR - Allowable Spacing and Edge Distance.

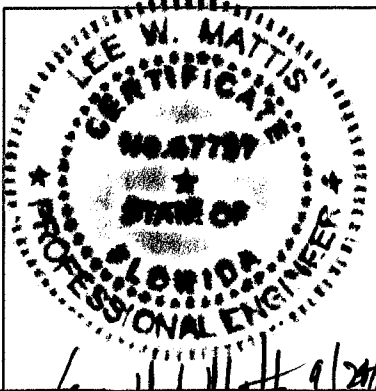
	DISTANCE FOR FULL ANCHOR CAPACITY (Critical Distance) ¹	DISTANCE FOR REDUCED ANCHOR CAPACITY (Minimum Distance) ²	REDUCTION FACTOR ³
SPACING BETWEEN ANCHORS	4E	2E	0.50
EDGE DISTANCE - TENSION	12D	5D	0.75
EDGE DISTANCE - SHEAR	12D	5D	0.35

1. The listed values are the minimum distances required to obtain the load values listed in Table No. 1.
D= Anchor Diameter. When adjacent anchors are different sizes or embedments, use largest value of D.
E= Embedment depth
2. The listed values are the minimum distances at which the anchor can be set, when load values are adjusted appropriately.
3. Load values in the table are multiplied by the reduction factor when anchors are installed at the minimum distances listed.
Use linear interpolation for spacing between critical and minimum distances. Multiple reduction factors for more than one spacing or edge distance shall be calculated separately and multiplied.

Approved as complying with the
Florida Building Code
Date 11/13/03
MCAW 03-03/1.08
Miami Code Control
Division
Key

Renumbered & table revisions for approval	9/24/03
REVISION DESCRIPTION	DATE

MIAMI DADE COUNTY - PRODUCT APPROVAL



TITLE POWER-STUD ANCHOR		
Powers Fasteners, Inc. 2 Powers Square New Rochelle, N.Y. 10801		
DATE OF ISSUE: 7/14/03	SHEET No. 1 OF 4	DRAWING No. MDC-01

DESCRIPTION AND MATERIALS:

The Lok/Bolt is a pre-assembled single unit sleeve anchor available in carbon steel which can be used in concrete.

The Lok/Bolt anchor diameter is the same as that for the hole which eliminates layout or hole spotting. The anchor consists of a threaded plow bolt which has a cone shape end. Precision stamped tubular expansion sleeves are assembled over the plow bolt and butted against the cone.

A nylon compression ring is added, then one of seven head styles shown below is assembled on to the plow bolt to complete the anchor. The Lok/Bolt is designed to draw the fixture into full bearing against the base material through the action of it's unique, flexible, compression ring.

The carbon steel component material is AISI 1010/1018 and AISI 1010/1020 with zinc plating under ASTM B633 SCI Type III.

LOK/BOLT SLEEVE ANCHOR

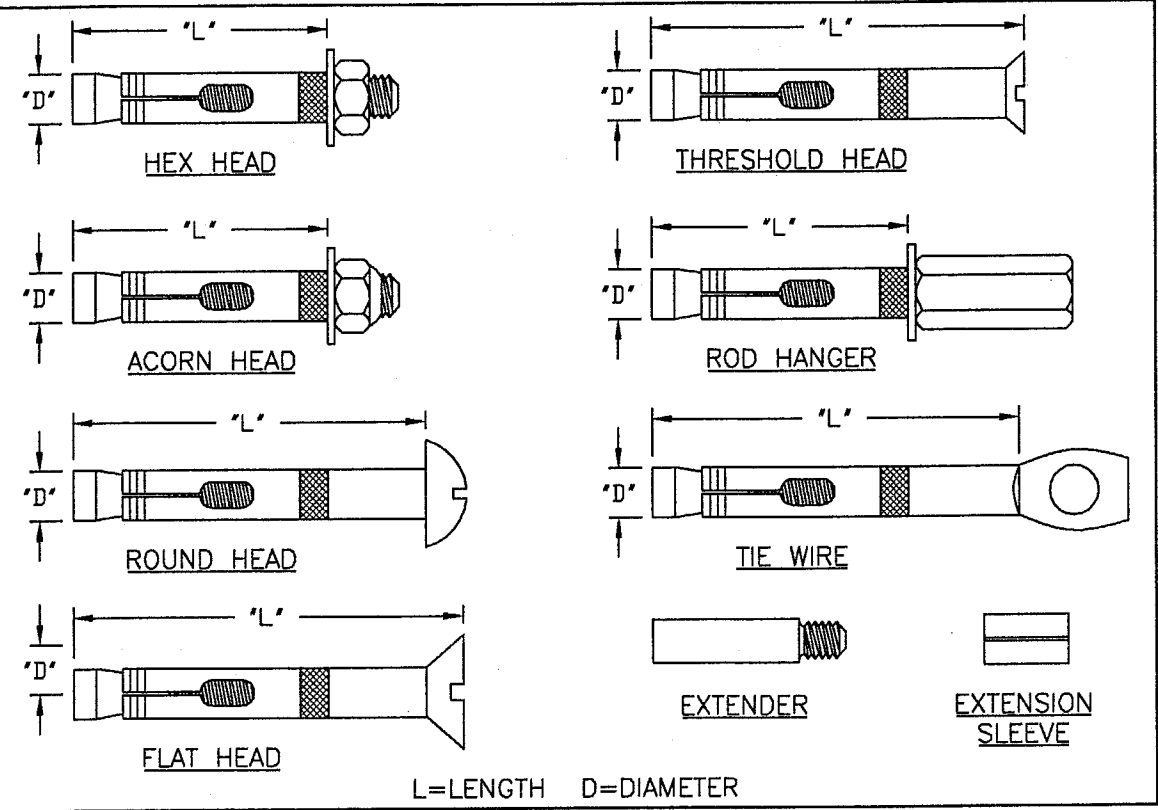


TABLE No. 1

LOK/BOLT ANCHOR – Allowable Design Loads.

Anchor Dia. (inches)	Embedment Depth (inches)	2000 psi Concrete	
		Tension (pounds)	Shear (pounds)
1/4	1-1/8	275	380
5/16	1-1/2	520	385
3/8	1-5/8	615	610
1/2	2-1/4	1,195	1,055
5/8	2-3/4	1,515	1,955
3/4	3-3/8	1,700	3,150

1. Allowable Loads are based on ultimate loads with a 4:1 safety factor.
2. Spacing and edge distance shall be in accordance with Table No. 2.
3. The allowable loads may be increased 33-1/3% for short term loading due to seismic or wind forces.
4. Allowable loads are for carbon steel anchors.

TABLE No. 2

LOK/BOLT ANCHOR – Allowable Spacing and Edge Distance.

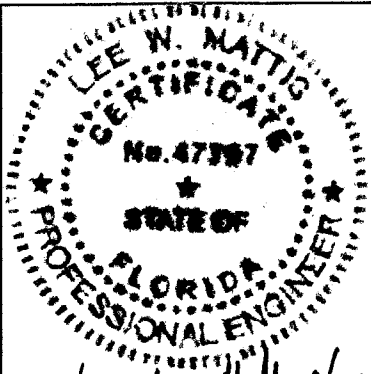
	DISTANCE FOR FULL ANCHOR CAPACITY (Critical Distance) ¹	DISTANCE FOR REDUCED ANCHOR CAPACITY (Minimum Distance) ²	REDUCTION FACTOR ³
SPACING BETWEEN ANCHORS	10D	5D	0.50
EDGE DISTANCE - TENSION	12D	5D	0.65
EDGE DISTANCE - SHEAR	12D	5D	0.43

1. The listed values are the minimum distances required to obtain the load values listed in Table No. 1.
D= Anchor Diameter. When adjacent anchors are different sizes or embedments, use largest value of D.
E= Embedment depth
2. The listed values are the minimum distances at which the anchor can be set, when load values are adjusted appropriately.
3. Load values in the table are multiplied by the reduction factor when anchors are installed at the minimum distances listed.
Use linear interpolation for spacing between critical and minimum distances. Multiple reduction factors for more than one spacing or edge distance shall be calculated separately and multiplied.

Approved as complying with the
Miami Building Code
Date 11/13/03
NOAH 03-0517.08
Miami Dade Product Control
Division

Renumbered & table revisions for approval	9/24/03
REVISION DESCRIPTION	DATE

MIAMI DADE COUNTY – PRODUCT APPROVAL



TITLE LOK/BOLT ANCHOR		
2 Powers Square Powers Fasteners, Inc. New Rochelle, N.Y. 10801		
DATE OF ISSUE: 7/14/03	SHEET No. 2 OF 4	DRAWING No. MDC-01

Lee W. Mattis 9/24/03

DESCRIPTION AND MATERIAL:

The Zamac Nailin is a nail drive anchor that has a body formed from Zamac alloy comprised of zinc, aluminum, magnesium and copper. Nails are available in carbon steel and can be used in concrete and concrete block.

The diameter of the Zamac Nailin is the same as that of the hole, eliminating the need for layout or hole spotting. Zamac 7, a corrosion resistant alloy, is used to form the anchor body with either a mushroom or flat head. On the working end of the anchor, two longitudinal slots are formed to allow each half of the body to expand. As the nail is driven into the anchor body, each half of the expansion mechanism is compressed against the walls of the drilled hole.

The drive nails are AISI 1018 carbon steel with ASTM B633, SCl Type III zinc plating. This anchor is not recommended for applications overhead.

ZAMAC NAILIN ANCHOR

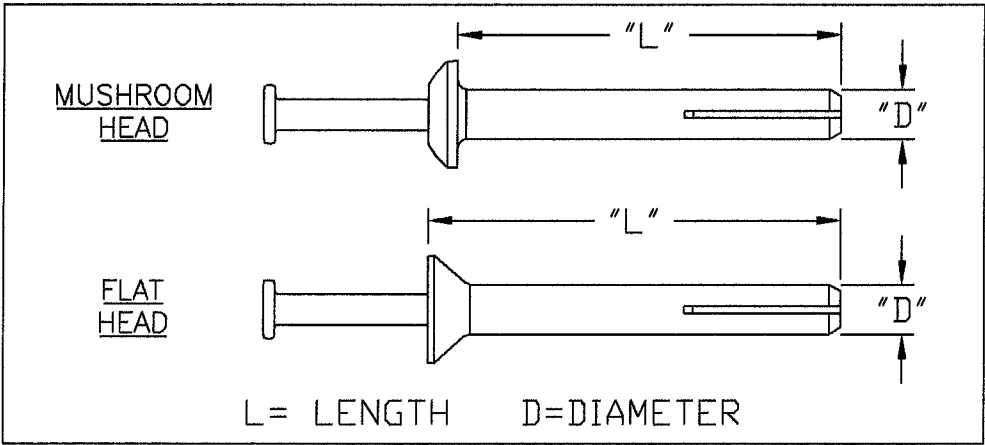


TABLE No. 1

ZAMAC NAILIN – Allowable Design Loads.

Anchor Dia. (inches)	Embedment Depth (inches)	2000 psi Concrete		4000 psi Concrete		ASTM C 90 Concrete Block	
		Tension (pounds)	Shear (pounds)	Tension (pounds)	Shear (pounds)	Tension (pounds)	Shear (pounds)
1/4	3/4	165	190	260	265	185	270
	1-1/8	260	225	280	305	260	315
	1-3/4	315	355	290	455	275*	320*

1. Allowable Loads are based on ultimate load with a 4:1 safety factor.
2. Masonry tests performed in ASTM C 90 medium weight units; edge and end distances 3-3/4" minimum.
3. Concrete spacing and edge distance shall be in accordance with Table No. 2.
4. *Embedment 1-3/8" (thickness of face shell)

TABLE No. 2

ZAMAC NAILIN ANCHOR – Allowable Spacing and Edge Distance.

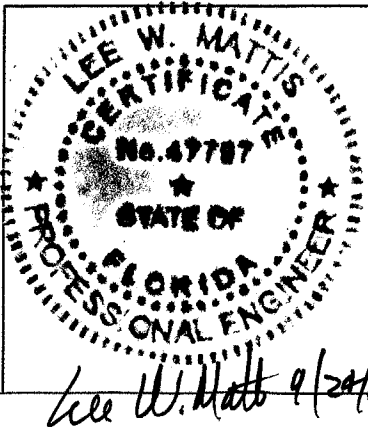
	DISTANCE FOR FULL ANCHOR CAPACITY (Critical Distance) ¹	DISTANCE FOR REDUCED ANCHOR CAPACITY (Minimum Distance) ²	REDUCTION FACTOR ³
SPACING BETWEEN ANCHORS	10D	5D	0.50
EDGE DISTANCE	16D	8D	0.50

1. The listed values are the minimum distances required to obtain the load values listed in Table No. 1.
D= Anchor Diameter. When adjacent anchors are different sizes or embedments, use largest value of D.
E= Embedment depth
2. The listed values are the minimum distances at which the anchor can be set, when load values are adjusted appropriately.
3. Load values in the table are multiplied by the reduction factor when anchors are installed at the minimum distances listed.
Use linear interpolation for spacing between critical and minimum distances. Multiple reduction factors for more than one spacing or edge distance shall be calculated separately and multiplied.

Approved to comply with the
Florida Building Code
Date: 11/13/03
NOAH 03-0311.08
Miami Dade Product Control
Division

Renumbered & table revisions for approval	9/24/03
REVISION DESCRIPTION	DATE

MIAMI DADE COUNTY – PRODUCT APPROVAL



TITLE ZAMAC NAILIN ANCHOR		
Powers Fasteners, Inc. 2 Powers Square New Rochelle, N.Y. 10801		
DATE OF ISSUE: 7/14/03	SHEET No. 3 OF 4	DRAWING No. MDC-01

DESCRIPTION AND MATERIAL:

The Steel Drop-In is an all steel, machine bolt anchor available in carbon steel. It can be used in solid concrete. A coil thread version for forming applications, and a flanged (lipped) version to ensure precise embedment are also available.

The Steel Drop-In is an internally threaded expansion anchor complete with a pre-assembled integral expanded plug. The anchor is expanded with a matching setting tool designed to protect internal threads while driving the pre-fitted plug to the end of the anchor. The tapered plug is precisely matched to the internal configuration of the anchor body to develop maximum expansion against the walls of the hole. Each steel anchor body has 4 slots on the leading end that allow it to expand. During installation, as the plug is driven into the bottom of the anchor body by a setting tool, the steel shell is forced outward in four directions compressing against the walls of the anchor hole.

The anchor body is manufactured from AISI 12L14 steel and the expansion plug is manufactured from AISI 1018 steel. The anchor is plated under ASTM B633.

STEEL DROP-IN ANCHOR

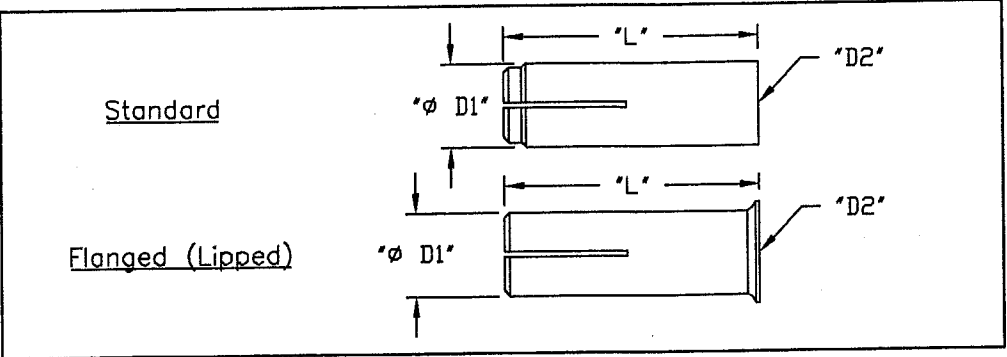


TABLE No. 1

STEEL DROP-IN ANCHOR – Dimensions.

Anchor Dia. (inches)	Body Length "L"	Body Dia "D1"	Thread Size "D2"
1/4	1"	3/8"	1/4-20
3/8	1-9/16"	1/2"	3/8-16
1/2	2"	5/8"	1/2-13
5/8	2-1/2"	7/8"	5/8-11
3/4	3-3/16"	1"	3/4-10

TABLE No. 2

STEEL DROP-IN ANCHOR – Allowable Design Loads.

Anchor Dia. (inches)	Embedment Depth (inches)	2000 psi Concrete		4000 psi Concrete		6000 psi Concrete	
		Tension (pounds)	Shear (pounds)	Tension (pounds)	Shear (pounds)	Tension (pounds)	Shear (pounds)
1/4	1-1/8	285	530	495	530	520	530
3/8	1-5/8	545	1,145	1,045	1,145	1,235	1,145
1/2	2-1/4	1,025	1,600	1,440	1,600	1,645	1,600
5/8	2-3/4	1,165	3,095	1,860	3,095	2,730	3,095
3/4	3-3/8	2,145	3,920	3,600	3,920	4,325	3,920

1. Allowable loads are based on ultimate load with a 4:1 safety factor.
2. Spacing and edge distance shall be in accordance with Table No. 3.
3. The allowable loads may be increased 33-1/3% for short term loading due to seismic or wind forces.
4. Allowable loads are for carbon steel anchors.

TABLE No. 3

STEEL DROP-IN ANCHOR – Allowable Spacing and Edge Distance.

	DISTANCE FOR FULL ANCHOR CAPACITY (Critical Distance) ¹	DISTANCE FOR REDUCED ANCHOR CAPACITY (Minimum Distance) ²	REDUCTION FACTOR ³
SPACING BETWEEN ANCHORS	4E	2E	0.50
EDGE DISTANCE - TENSION	14D	7D	0.90
EDGE DISTANCE - SHEAR	14D	7D	0.50

1. The listed values are the minimum distances required to obtain the load values listed in Table No. 2. D= Anchor Diameter. When adjacent anchors are different sizes or embedments, use largest value of D. E= Embedment depth
2. The listed values are the minimum distances at which the anchor can be set, when load values are adjusted appropriately.
3. Load values in the tables are multiplied by the reduction factor when anchors are installed at the minimum spacing listed. Use linear interpolation for spacing between critical and minimum distances. Multiple reduction factors for more than one spacing or edge distance shall be calculated separately and multiplied.

TABLE No. 4

STEEL DROP-IN ANCHOR – Installation Specifications.

Anchor Diameter (inches)	1/4	3/8	1/2	5/8	3/4
Drill Diameter (inches)	3/8	1/2	5/8	7/8	1
Max. Torque (ft.-lbs.)	5	10	20	40	80

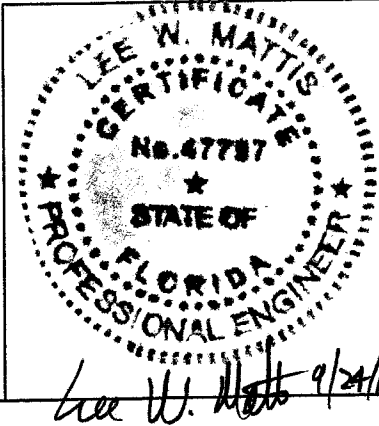
1. Anchor installation shall be performed in accordance with Powers Fasteners published installation instructions.
2. For proper installation, a Powers setting tool must be used. The tool must be driven with a sufficient number of hammer blows until the shoulder of the setting tool is flush with the collar of the anchor.

Approved as complying with the
Florida Building Code
Date 11/13/03
NGAR 03-6311.08
Miami Dade Product Control
Division
By [Signature]

Renumbered & table revisions for approval 9/24/03

REVISION DESCRIPTION DATE

MIAMI DADE COUNTY – PRODUCT APPROVAL



TITLE STEEL DROP-IN ANCHOR		
2 Powers Square Powers Fasteners, Inc. New Rochelle, N.Y. 10801		
DATE OF ISSUE: 7/14/03	SHEET No. 4 OF 4	DRAWING No. MDC-01